Savannah River Site
Citizens Advisory Board

Recommendation # 286
Yucca Mountain as Interim Storage Site

Background

The U.S. has grappled with development of a national long-term geologic repository since the early 1980s. In 1982, Congress passed the Nuclear Waste Policy Act (NWPA) specifying that a geologic repository would be developed. The repository's disposal limit was set at 77,000 tons, most of which (69,300 tons, or 90 per cent) was designated for nuclear fuel assemblies from commercial power reactors. The remaining 10 per cent of repository space was designated space for legacy plutonium, spent fuel from Navy ships and submarines, research reactors, and reprocessing projects, and other radioactive waste that requires special containerization techniques.

One site was ultimately selected in 1985; Yucca Mountain. The interior of the mountain was to be converted into a maze of tunnels that could permanently entomb and secure the nation's nuclear waste. The life cycle cost, covering the period 1983-2035, was estimated to be $58 billion. Over a period of nearly 30 years, more than $10 billion was spent to study and test Yucca Mountain and finally declare it scientifically viable as a national long term geologic repository for U.S. radioactive waste. President George W. Bush and Energy Secretary Spencer Abraham signed the final impact document, permitting the license application to be submitted to the Nuclear Regulatory Commission (NRC).

In 2010, Secretary of Energy Stephen Chu terminated the Yucca Mountain project with the withdrawal of the license application and cancellation of project funding. The official explanation by the Department of Energy (DOE) is that a successful approach must be both scientifically sound and achieve consensus of the affected communities. Subsequently, the administration established a Blue Ribbon Commission (BRC) to provide recommendations for developing a safe, long-term solution to managing the nation's used nuclear fuel and other nuclear waste, as well as identifying pathways to America's nuclear future.

The BRC issued its final report in January 2012. Among its recommendations is the establishment of interim storage sites as repositories for America's high-level radioactive wastes while permanent technological solutions are found.

Comments

While the NRC's Safety Evaluation Report (SER) has not been released, Volume III is a comprehensive technical evaluation of site safety which is requisite for the issuance of a site license and construction of the Yucca facility. According to an evaluation of the SER Volume III by members of House Science, Space and Technology Committee (SSTC),

the license application meets all NRC required safety and performance objectives. The SSTC evaluation joins other claims that there is no evidence that Yucca Mountain is not scientifically sound or safe for the repository mission.

Meanwhile, taxpayer liabilities under the NWPA are increasing, nuclear waste sits at over a hundred commercial sites and several national laboratories across the country with no plan for disposition, and the lack of a nuclear waste management policy ultimately threatens the future of the nuclear energy industry to help meet America's growing energy demands and the world's need for clean, safe and cheap power. After intensive study and testing by experts in nuclear technologies, there appears to be no evidence that the site would not be an appropriate, even leading candidate, as an interim storage site. Additionally, there is no language in official documents regarding the site that it is an inappropriate or unsafe candidate for an interim storage repository. Designation of Yucca Mountain as an Interim Storage Site would also save taxpayers the burden of repeating tests and studies already conducted at the site (estimated at more than $10 billion to date).

The Citizens Advisory Board (CAB) recognizes that Section 135a (2) of the 1982 Nuclear Waste Policy Act (NWPA) restricts designation of any federal or non-federal site from consideration for nuclear waste storage where there exists a candidate site for a repository. However, Secretary Chu has declared that Yucca Mountain is not an appropriate site for a permanent national repository and has proceeded to withdraw application to the Nuclear Regulatory Commission (NRC) to license the site. The NWPA provides that restriction of candidacy does not apply once the Secretary "decides that such candidate site is no longer a candidate site under consideration as a repository", thereby making Yucca Mountain again a viable candidate for designation as an Interim Storage Site.

Should Yucca Mountain be designated as an interim site and should the Secretary subsequently reverse his position on Yucca Mountain's ineligibility as a national permanent repository, the restriction would once more apply. However, the point would become moot since the site has already been designated as the permanent national repository through the 1987 congressional modification of the 1982 NWPA.

Finally, it is within DOE's Environmental Management (EM) responsibility to assure that the EM program is on a path to decommissioning its national laboratories and other facilities housing radioactive wastes, including the Savannah River Site (SRS). Radioactive waste remaining at SRS after 2034 may affect the decommissioning of the Site. Consequently, the possibility of establishing Yucca Mountain as an interim storage site, which would provide a disposition pathway from SRS for currently stored radioactive waste, becomes a valid concern of the Site Specific Advisory Board.

Recommendations:

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. Accept the BRC's recommendation to establish one or more interim storage sites for U.S. high-level nuclear wastes.
2. Designate Yucca Mountain as one potential interim storage site for U.S. high-level nuclear waste.
3. Request funding for the completion of Yucca Mountain as an interim storage site.
4. Develop and publicize an action plan for opening Yucca Mountain to receive interim storage radioactive waste.

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